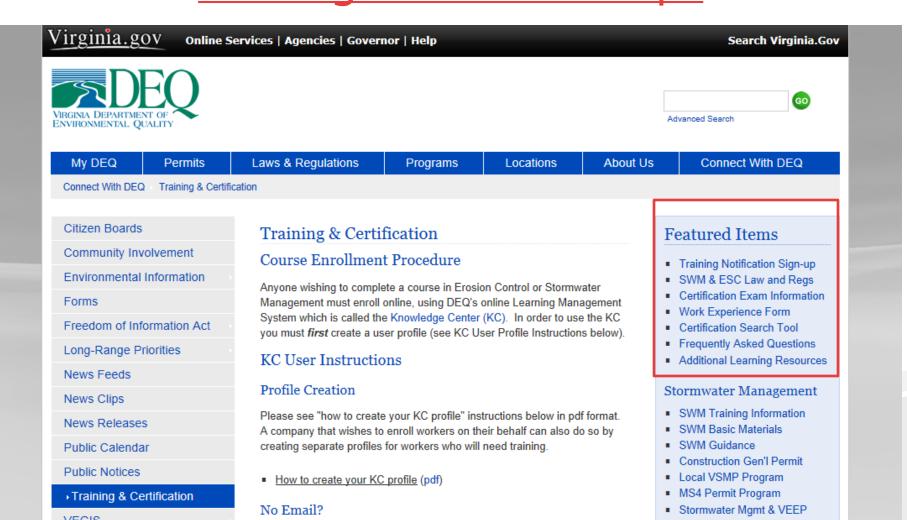
These PowerPoint documents have been made available by DEQ Office of Training Services for study purposes only. Exam questions will not be derived from the PowerPoints. PowerPoint documents will not be allowed into the exam. NOTE: This presentation was updated 4.16.15.



VSMP Regulations – An Overview



# Download the Act and Regs: www.deq.virginia.gov/connectwithDEQ/trainingCertification.aspx





## Definitions (9VAC25-870-10)



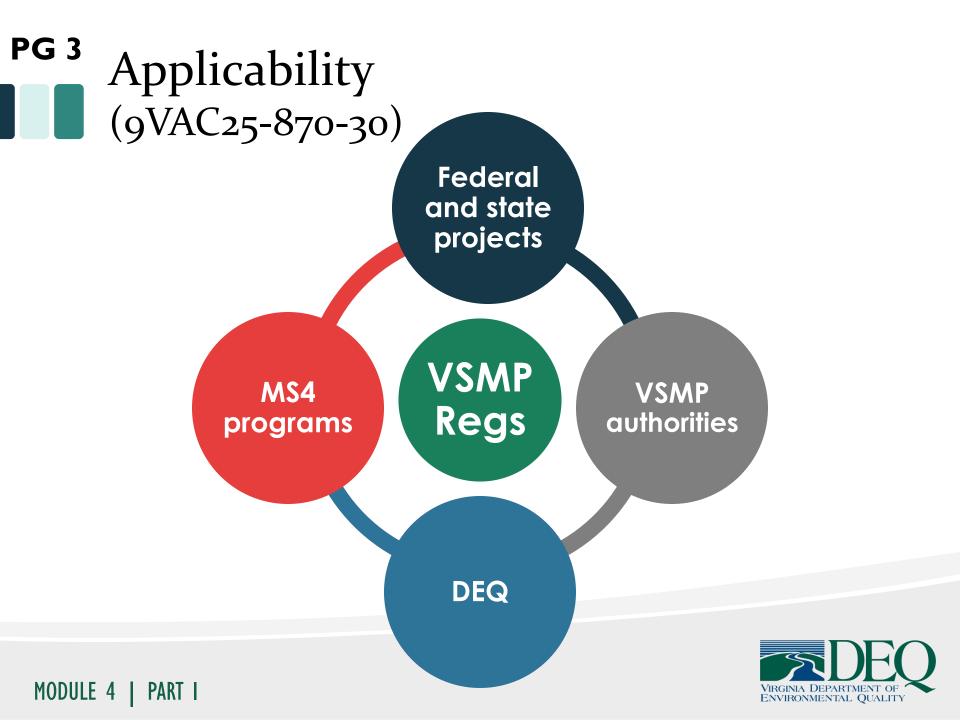




### Purposes (9VAC25-870-20)

- Framework for VSMP:
  - Administration
  - Implementation
  - Enforcement
- Outline procedures and requirements for permits







## Applicability (9VAC25-870-30)

## Land-Disturbing Activities (LDA)

≥ 1 acre
Or part of a
larger Common
Plan of
Development or
sale ≥ 1 acre

≥ 2,500 sq. ft. in Chesapeake Bay Preservation Areas

More
stringent area
as required
by local
ordinance





# Part II - Administrative and Technical Criteria for Land-Disturbing Activities







## Implementation Date

(9VAC25-870-45)

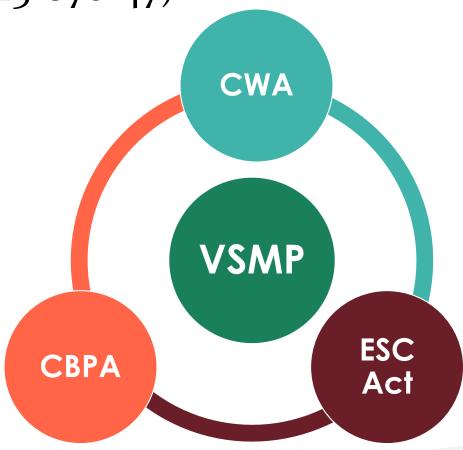








Other Laws and Regulations (9VAC25-870-47)





## Time Limits of Approved Design Criteria (9VAC25-870-47B)

Initial permit coverage Part II C

1st 5-yr renewal Part II C 2nd 5-yr renewal Part II C

New criteria

7/1/09 **–** 6/30/14

7/1/24 – 6/30/29





Grandfathering (9VAC25-870-48)



- Proffered or conditional zoning plan
- Zoning with a plan of development
- Preliminary or final subdivision plat
- Preliminary or final site plan
- Document determined equivalent by locality

- ✓ Approved by locality before July 1, 2012
- ✓ Provides a layout
- ✓ Will comply with Part II C
- No modification that increases P, volume or rate of runoff
- ✓ No state permit issued before July 1, 2014
- ✓ LDA did not start before July 1, 2014

### Private LDA

LDA commenced or Construction GP issued before 7/1/14?

### Yes

Part II C 2 additional permit cycles

### No

Subdivision plat or site plan approved before 7/1/12?

### Yes

Grandfathered until 2019

### No

Not grandfathered



### Local, State, Federal LDA

LDA commenced or Construction GP issued before 7/1/14?

### Yes

Subject to
Part II C
2 additional
permit cycles

### No

Bonding or public debt financing issued before 7/1/12?

### Yes

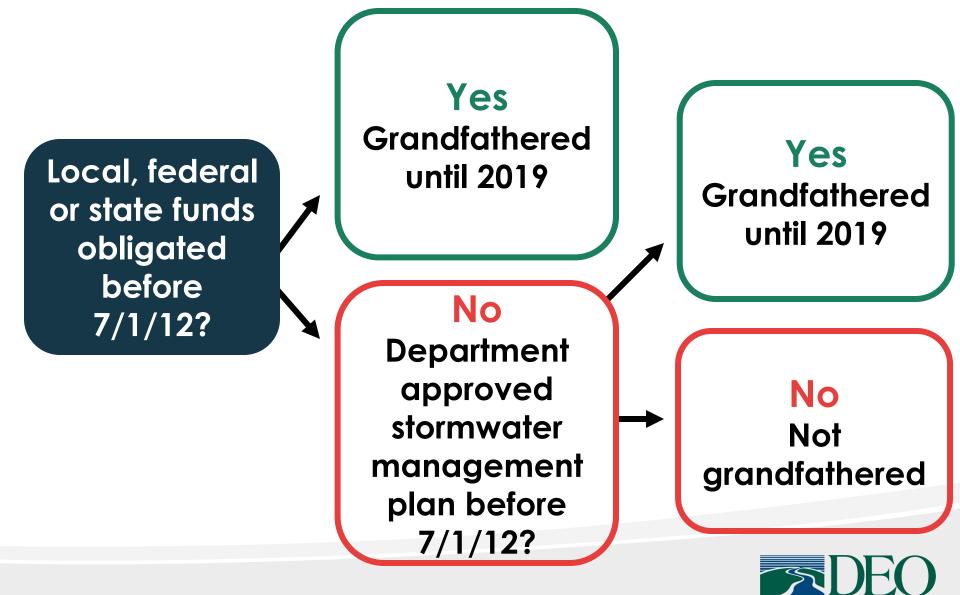
Grandfathered no specific time for completion

### No

Local, federal or state funds obligated before 7/1/12?



### Local, State, Federal LDA



## **PG 9** Chesapeake Bay Preservation Act LDA (9VAC25-870-51)

- Results in a land disturbance greater than or equal to 2,500 sq. ft. and less than 1-acre in areas subject to the CBPA
  - Does <u>not</u> require coverage under the Construction GP
  - Must:
    - Meet Part II administrative and technical criteria





## Knowledge Check



 Are local governments able to impose more stringent technical criteria or requirements than are included in the Regulations?

Yes





## Knowledge Check



 A land-disturbing activity of two acres received a Construction GP on March 30, 2013. What technical criteria must be met and for how many permit cycles?

Technical criteria in place at the time of initial state permit coverage for two additional five-year permit cycles





## Part II A: General Administrative Criteria for Regulated Land-Disturbing Activities

### PG II



## Applicability (9VAC25-870-53)





PG II SWPPP Requirements (9VAC25-870-54) **Approved ESC** plan Control **Approved SWPPP** measures **SWM** plan for TMDL P2 plan MODULE 4 | PART II A

ENVIRONMENTAL QUALITY

## PG 12 9 Performance Requirements of the SWPPP (9VAC25-870-54)

Stormwater volume and velocity

Stormwater discharges

Soil exposure

Steep slopes

Sediment discharges

Natural buffers and vegetated areas

Soil compaction and topsoil

Stabilization

Outlet structures



## PG 12 SWPPP Requirements (9VAC25-870-54)

### Amendments

 Change that has significant effect on the discharge of pollutants to state waters and not previously included in SWPPP

### Location

Onsite or notice of location posted near main entrance



## PG 12 Stormwater Management Plans (9VAC25-870-55)

**Approved** before start of LDA

Covers post construction stormwater management





## Stormwater Management Plans (9VAC25-870-55)

Stormwater discharges

**Contact** information

**Narrative** 

Stormwater
management
facilities
description and
info

Hydrologic and hydraulic computations

Documentation and calculations

Maps

Off-site requirements

Fee and form



## Stormwater Management Plans (9VAC25-870-55)

- End of construction:
  - Construction record drawing for permanent stormwater management facilities ("as-built") must be submitted to the VSMP authority with seal and signature of a Virginia registered professional





## Stormwater Management Facility

- Stormwater runoff control measure
  - Quality
  - Quantity
  - Period of release
  - Velocity of flow





## Best Management Practices (BMPs)

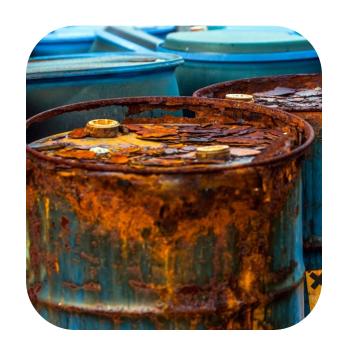
- Management practices to prevent or reduce the pollution of surface waters and groundwater systems
  - Schedule of activities
  - Prohibitions of practices
  - Maintenance procedures
  - Structural and nonstructural practices



## PG 15 Pollution Prevention Plans (P2Plan) (9VAC25-870-56)

### Minimize:









## PG 15 Pollution Prevention Plans (P2Plan) (9VAC25-870-56)

### Prohibit discharges from:





## Requesting an Exception (9VAC25-870-57)



No

**Economic** hardship **Obtaining state** permit



# Responsibility for Long-term Maintenance of Permanent Stormwater Management Facilities(9VAC25-870-58)

 Prepared and submitted to VSMP authority before the stormwater management plan can be approved





## Applying for State Permit Coverage (9VAC25-870-59)

## **Operator** Signature







## Knowledge Check



 What are the four components of a SWPPP?

Approved erosion and sediment control plan

Approved stormwater management plan

Pollution prevention plan

Additional control measures to meet TMDL





### Knowledge Check



 Which plan within the SWPPP describes the pollution prevention measures that will take place during construction activities to protect waterways?

Pollution prevention plan (P2 Plan)





## Part II B: Technical Criteria for Regulated LDAs



# PG 19 Technical Criteria for Regulated Land-Disturbing Activities

Post-development treatment volume (TV) water quality

Post-development onsite volume reduction water quantity





# Applicability (9VAC25-870-62)

- State agencies
- VSMP authorities



# Water Quality Design Criteria (9VAC25-870-63)

Why do we treat stormwater runoff?









# PG 20 Water Quality Design Criteria (9VAC25-870-63)

**Phosphorous** 





New development

Re-development







# PG 20 Water Quality Design Criteria (9VAC25-870-63)

#### New development

Phosphorous (P) cannot exceed 0.41 lbs./acre/year



# Development on prior developed land: LDA **DOES NOT** increase impervious cover

#### LDA ≥ 1 acre

P must be reduced at least 20% below pre-development P load

#### LDA < 1 acre

P must be reduced at least 10% below pre-development P load



# Development on prior developed land: LDA **DOES** increase impervious cover

#### LDA ≥ 1 acre

P load on <u>increased</u> <u>impervious area</u> cannot exceed **0.41 lbs./acre/yr.** 

P load on <u>remainder</u> of site must be reduced at least **20%** below pre-development P load

#### LDA < 1 acre

P load on <u>increased</u> <u>impervious area</u> cannot exceed **0.41 lbs./acre/yr.** 

P load on <u>remainder</u> of site must be reduced at least 10% below pre-development P load





# Water Quality Design Criteria (9VAC25-870-63)

- Linear development on prior developed land
  - P load must be reduced 20% below the predevelopment P load
- Total phosphorus load cannot be required to be reduced below 0.41 lbs/acre/year – unless locality has established more stringent standard



# PG 21 Water Quality Compliance (9VAC25-870-65)

1. Reduce the total volume of runoff carrying pollutants

2. Decrease the amount of runoff to receiving streams

> Virginia Runoff Reduction Method

3. Maintain groundwater recharge rates at development sites



PG 22 Water Quality Compliance (9VAC25-870-65) Reduce P load Reduce runoff volume **BMPs** 

**ENVIRONMENTAL QUALITY** 



Why do we care about water quantity?











#### Channel Protection

Stormwater conveyance system:

Combination of drainage components used to convey stormwater discharge

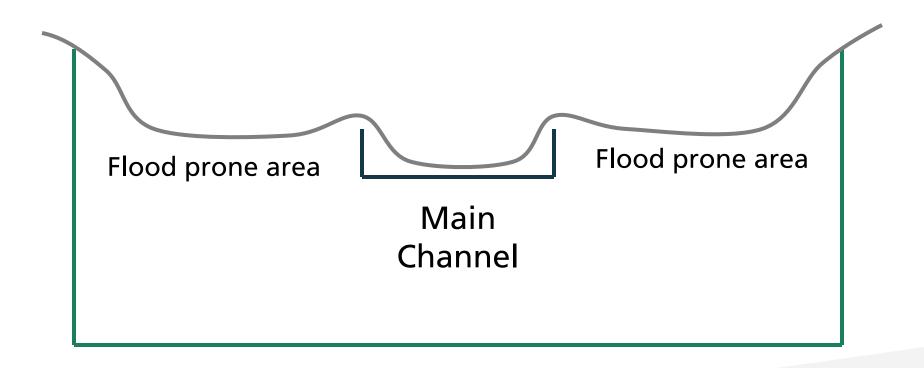


# PG 23 Channel Protection Manmade conveyance system

Pipe
Ditch
Vegetated swale
Other stormwater conveyance
system constructed by man

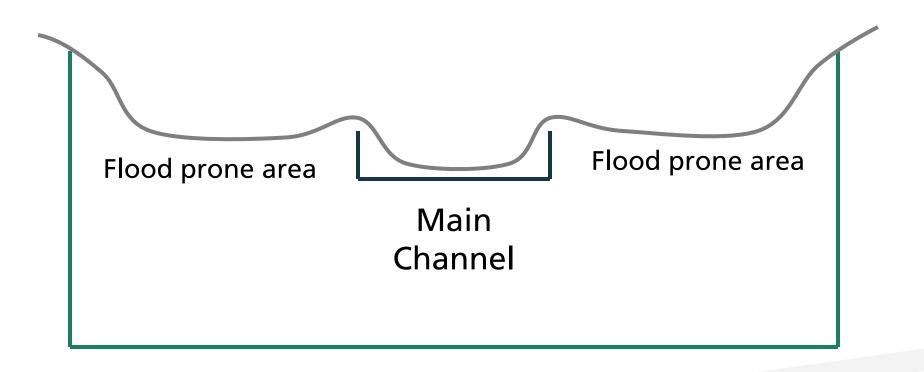


# PG 23 Channel Protection Natural conveyance system





# PG 23 Channel Protection Restored conveyance system







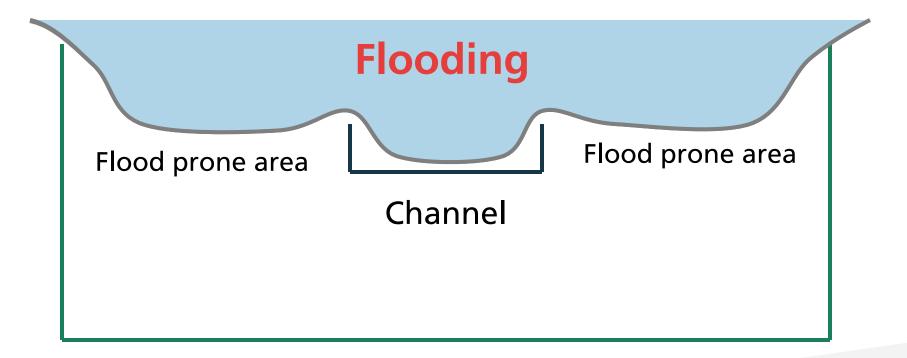
#### **Channel Protection**

**Channel**Natural or manmade
waterway





#### **Channel Protection**

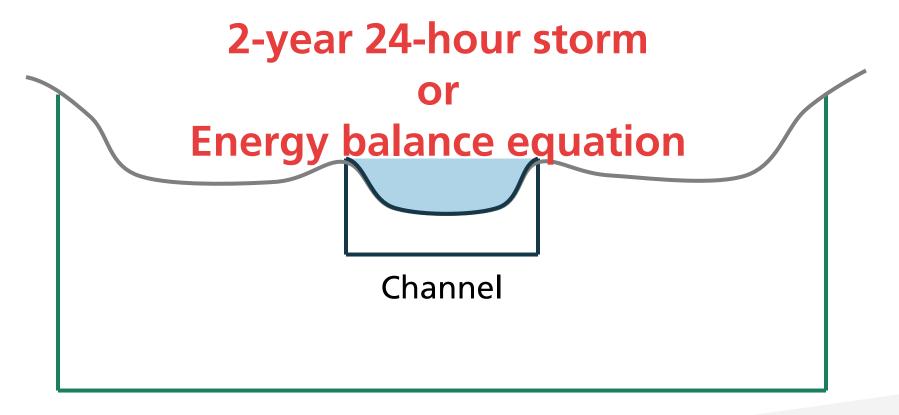




## PG 23 Channel Protection



## Manmade Conveyance System

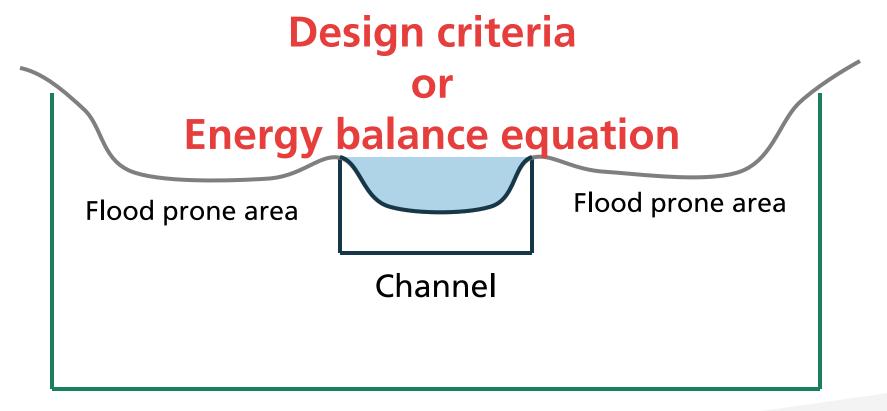




## PG 23 Channel Protection



## **Restored** Conveyance System







# PG 24 Water Quantity – Channel Protection **Natural** Conveyance System

**Energy balance equation** 

Method approved by Board

Flood prone area

Flood prone area

Channel



### PG 24 Channel Protection



### **Energy Balance Equation**

$$Q_{post}*Rv_{post} \le IF*Q_{pre}*Rv_{pre}$$
 (1-yr 24-hr storm)

- Post-development peak flow rate cannot be greater than pre-development
- Post-development peak flow rate cannot be required to be better than a site in forested condition as adjusted by postdevelopment volume (Q<sub>forest</sub>\*RV<sub>forest</sub>/RV<sub>post</sub>)





### Water Quantity – Flood Protection

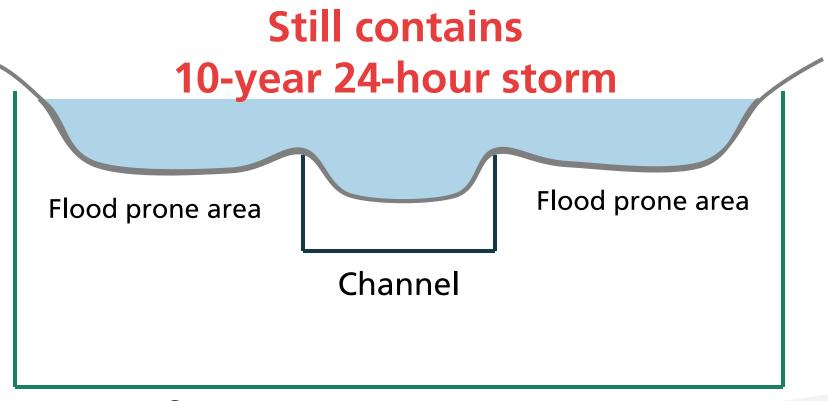
#### Goal

- Prevent flood damage to the conveyance system and drainage infrastructure
- Reduce minor flooding caused by over-bank floods
- Protect downstream structures, culverts, and bridges from increased over-bank flooding





## Water Quantity – Flood Protection

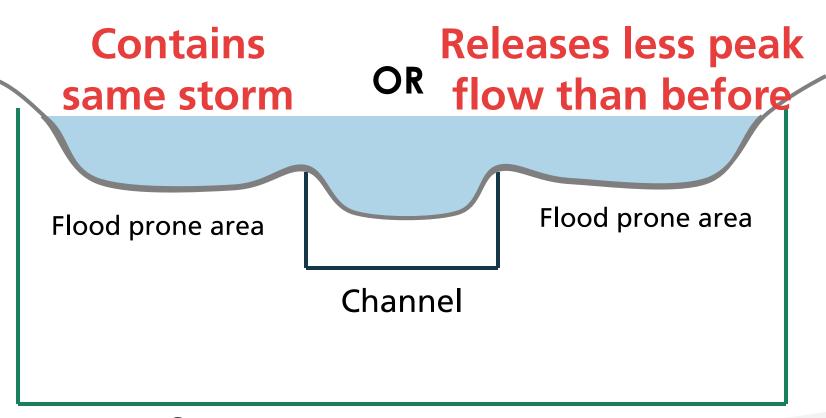


Stormwater conveyance system

Does not experience localized flooding during
the 10-year 24-hour storm



## Water Quantity – Flood Protection



Stormwater conveyance system

Does experience localized flooding during the

10-year 24-hour storm

# PG 29 Stormwater Harvesting (9VAC25-870-74)



**Encouraged!** 

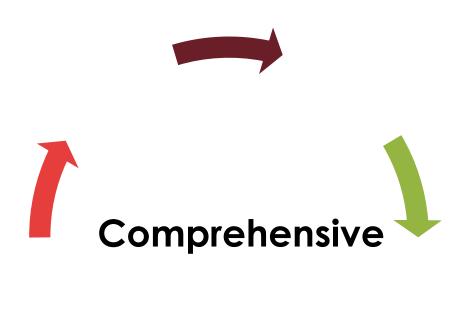


# PG 29 Linear Development Projects (9VAC25-870-76)





PG 30 Comprehensive Stormwater
Management Plans(9VAC25-870-92)











## Knowledge Check



 What nutrient is measured to control the quality of stormwater discharge from a site after construction?

Phosphorous





Part II C: Technical Criteria for Regulated Land-Disturbing Activities:

Grandfathered Projects and Projects Subject to the Provisions of 9VAC25-870-47B





# Applicability (9VAC25-870-94)

 Grandfathered projects and projects subject to the provisions of 9VAC25-870-47B





### Water Quality (9VAC25-870-96)

- Performance based criteria
  - 4 development situations (Table 4-3)
  - Post-development pollutant runoff load vs. pre-development load
  - BMP selected to meet post-development discharge requirement





## Water Quality (9VAC25-870-96)

- Technology based criteria
  - BMPs selected based on post-development percent impervious cover
     (Table 4-4)





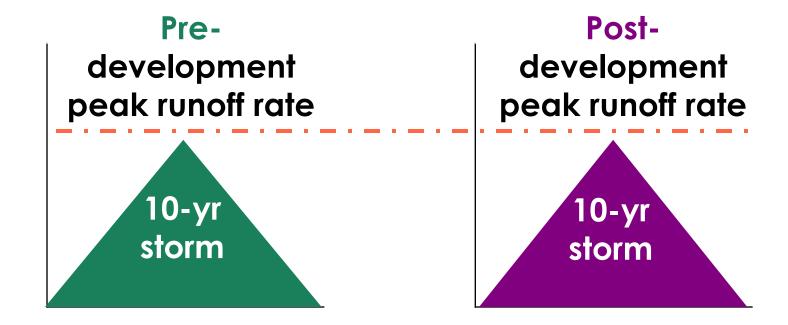
# PG 35 Stream Channel Erosion (9VAC25-870-97)

- MS 19
- Option for enhanced criteria or more stringent requirements
  - Conveyance system must provide 24-hour extended detention





## Flooding (9VAC25-870-98)

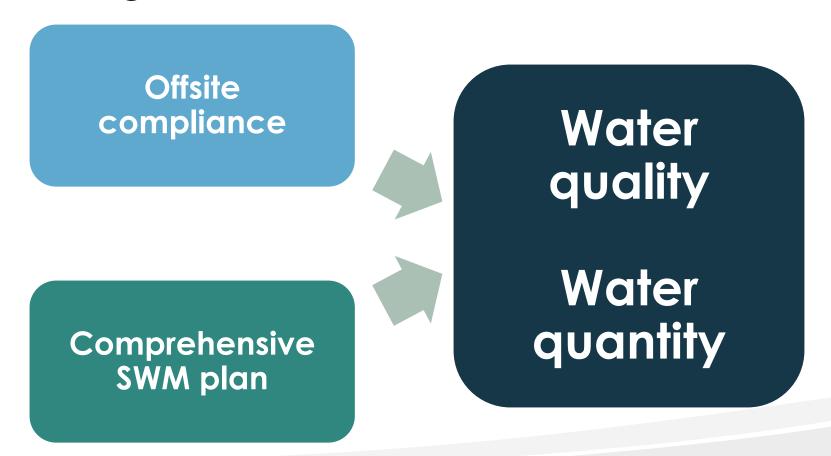


Alternate design criteria





Regional (Watershed-Wide) Stormwater Management Plans (9VAC25-870-99)







# Part III: General Provision Applicable to VSMPs and VSMP Authorities



# PG 39 VSMP Authority Requirements for



Program requirements (104)

Plan review (108)

Long-term stormwater management agreements

# Adopt ordinances to incorporate these requirements

Exception conditions (122)

Reporting and recordkeeping (126)





# Part III A: Programs Operated by a VSMP Authority



# PG 40 Criteria for Programs Operated by a VSMP Authority (9VAC25-870-104)

- Require compliance with Part II administrative and technical criteria
- In review of state projects within localities, Department will consider local VSMP authority's more stringent ordinances or comprehensive stormwater management plan
- Localities cannot regulate or require prior approval for a state or federal project



# PG 40 Additional Requirements for VSMP Authorities(9VAC25-870-106)

 Adopt ordinances that are at least as stringent as the provisions of the Construction GP



# PG 41 Stormwater Management Plan Review (9VAC25-870-108)







# Long-Term Maintenance of Permanent Stormwater Management Facilities (9VAC25-870-112)

- Submitted for review and approval before approval of stormwater management plan
- Stated to run with the land
- Provide access to the property for maintenance and regulatory inspections





### Long-Term Maintenance

- Provide for inspections and maintenance and submission of reports to VSMP authority
- Enforceable by all government parties
- Recorded with local land records before permit termination





# Inspections (9VAC25-870-114)

- During construction, VSMP authority must periodically inspect the LDA for:
  - Compliance with approved ESC plan and stormwater management plan
  - Updating and implementing a P2 plan
  - Implementing any additional control measures necessary to address a TMDL





# Inspections (9VAC25-870-114)

- VSMP authority must establish a post-construction inspection program:
  - Be approved by Board
  - Ensure each facility is inspected at least once every 5 years
  - Be document by records





# Inspections (9VAC25-870-114)

- Post-construction inspection reports
  - Licensed
    - Professional engineer
    - Architect
    - Landscape architect
    - Land surveyor
  - Person under the direction and oversight of those listed above
  - Person with an Inspector Certificate of Competence





### Enforcement (9VAC25-870-116)

- Informal and formal administrative procedures may include:
  - Verbal warnings and inspection reports
  - Notices of corrective action
  - Consent orders including civil charges
  - Notices to comply
  - Public notice and comment periods for proposed settlements and consent special orders





# Enforcement (9VAC25-870-116)

- Civil and criminal judicial enforcement procedures may include:
  - Criminal penalties
  - Injunctions





### Enforcement (9VAC25-870-116)

 A locality's VSMP authority must develop policies and procedures that outline the enforcement actions





### Enforcement (9VAC25-870-116)

 The locality's VSMP authority has the discretion to impose a maximum penalty of \$32,500 per violation per day







### Enforcement (9VAC25-870-116)

- Violations can include:
  - No state permit registration
  - No SWPPP, incomplete SWPPP, or SWPPP not available for review
  - No approved ESC plan
  - Failure to install, improperly install or maintain BMPs or ESCs
  - Operational deficiencies
  - Failure to conduct required inspections
  - Incomplete, improper, or missed inspections





# Enforcement (9VAC25-870-116)







### Enforcement (9VAC25-870-116)

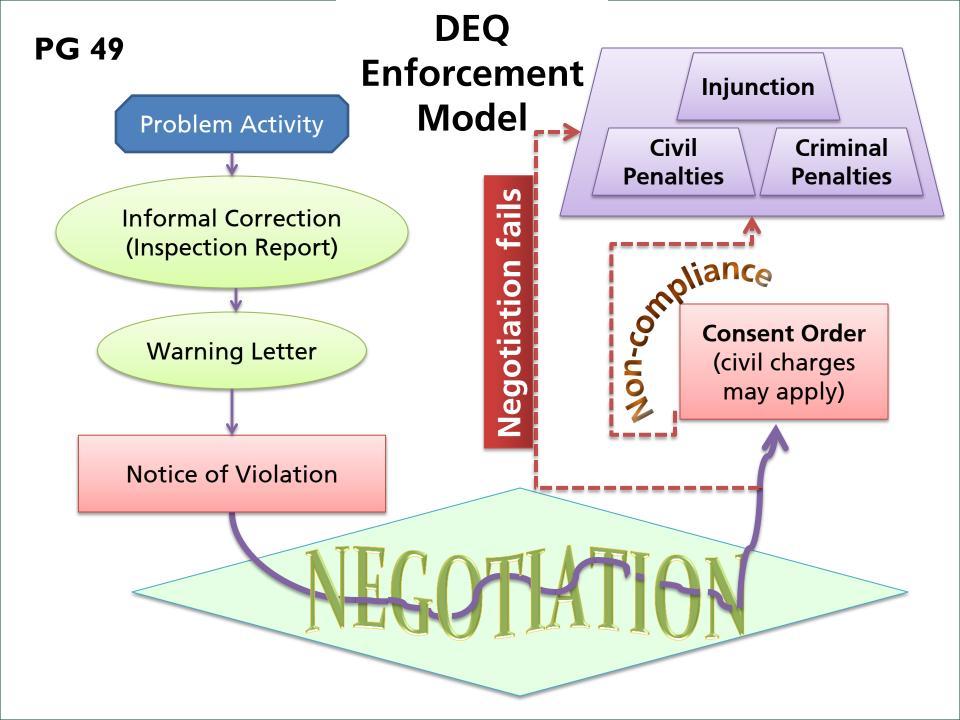


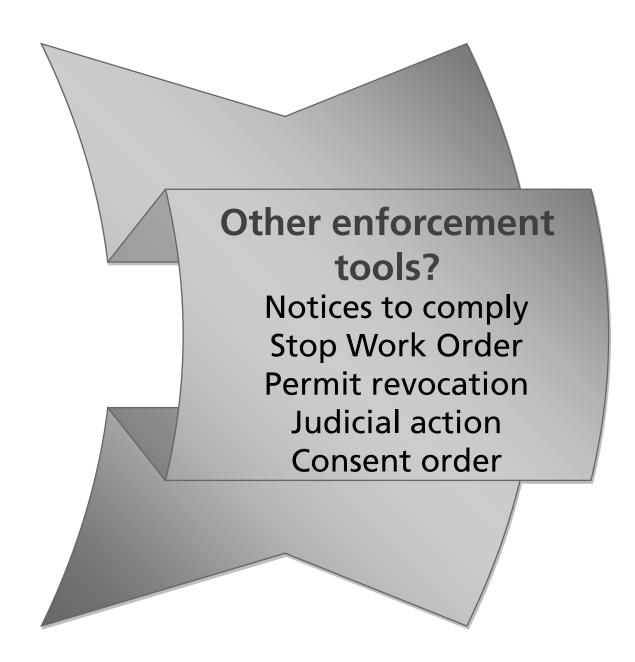
Locality treasury where violation occurred

Civil penalty recovered by locality's VSMP authority



**DEQ PG 47-48 Enforcement** Model **Problem Activity Compliance Informal Correction** (Inspection Report) **Consent Order** Warning Letter (civil charges may apply) **Notice of Violation** 







# Hearings (9VAC25-870-118)

- Right to a hearing:
  - Permit applicant, permittee, or person aggrieved by any action of the VSMP authority taken without formal hearing, or by inaction has the right to a hearing





# Exceptions (9VAC25-870-122)

- Exceptions to Part II B or II C may be granted provided:
  - Minimum necessary to afford relief
  - Intent of Act and Regulations preserved
  - No special privileges given
  - Conditions or circumstances for request are not self-imposed or self-created







### Exceptions (9VAC25-870-122)

- Please!
- Exceptions cannot be granted for:
  - Economic hardship alone
  - Requirement for state permits
  - BMPs not found on the Clearinghouse
    - Except for where allowed in Part II C
  - Phosphorous exceptions
    - Unless offsite options have been considered and found not available





# Reports and Record Keeping (9VAC25-870-126)

# Fiscal year reporting

# of permanent stormwater management facilities completed

# of enforcement actions

# of exceptions granted



Reports and Record Keeping (9VAC25-870-126)

3 yrs

**Project records** 

Registration statements

5 yrs

Stormwater management facility inspection records Until facility is removed

Construction record drawings





# Knowledge Check



 How long does the VSMP authority have to determine the completeness of a stormwater management plan?

### 15 days

 If a plan is determined complete, and notification has been given within 15 days of submission, how long does the authority have to review the plan?

60 days from the time of notification





# Part III B – DEQ Procedures for Review of VSMPs



### VSMP Review (9VAC25-870-144)



ENVIRONMENTAL QUALITY



# VSMP Review (9VAC25-870-144)

- If DEQ finds deficiencies:
  - DEQ provides results and compliance recommendations in form of corrective action plan and schedule within 120 days of the completion of review





# Part III C – State Water Control Board Authorization Procedures for VSMPs



# VSMP Administrative Requirements (9VAC25-870-148)

**Identify authorities** 

Review and approval

SWPPP compliance

Inspection and monitoring

Long-term inspection and maintenance of BMPs

Fee collection

Enforcement and civil penalties

Obtain and release bonds

Reporting and recordkeeping





# Part IV – Technical Criteria and State Permit Application Requirements for State Projects





PG 57 Technical Criteria and Requirements for State Projects (9VAC25-870-160)

- Must comply with technical criteria in Part II
- To largest extent practicable comply with locality's VSMP authority's technical requirements
  - State agency's responsibility to demonstrate requirements are not practicable



# PG 58 Technical Criteria and Requirements for State Projects (9VAC25-870-160)

**Location and** design

Site plan

Hydrologic and hydraulic computations

**Calculations** 

Maintenance and inspections

Who's responsible for maintenance

Sealed and signed



### **PG 58** Requirements for State Stormwater

- Management Annual Standards and Specifications (9VAC25-870-170)
- Submitted to Department annually
- Must be consistent with Act and Regulations, Construction GP, and ESC Law and Regulations
- Each project must obtain coverage under the state general permit before starting LDAs





# Annual Standards and Specifications (9VAC25-870-170)

- Technical criteria
- Preparation of stormwater management and ESC plans for each project
- Long-term responsibility and maintenance of stormwater management control devices
- ESC and VSMP administration, plan design, review and approval, and construction inspection and enforcement





# Annual Standards and Specifications (9VAC25-870-170)

- Personnel and contractors obtain proper certifications or qualifications
- Project tracking and notification system to the Department of all LDAs
- Document on-site changes as they occur



PG 59 Administrative Procedures: Stormwater
Management Permit Applications
(9VAC25-870-180)





# **PG** 60 Administrative Procedures:

- Maintenance (9VAC25-870-200)
  - Responsibility for operation and maintenance stays with the state agency until there is a new owner
    - If land is sold, legally binding arrangements are made to pass on the basic responsibility to new owner



### PG 60 Administrative Procedures:

Inspections (9VAC25-870-200)

# Inspections

Responsible State
Agency

**Department** 

Minimum: Annually and after any storm which causes facility's spillway to be exceeded

Randomly during construction



# Knowledge Check



 What technical criteria do state projects have to comply with?

Technical criteria in Part II





# Reporting on Stormwater Management (9VAC25-870-210)

- State agencies report annually to Department:
  - Number and types of stormwater management facilities installed
  - Drainage area or watershed size served
  - Receiving stream or hydrologic unit
  - Summary of monitoring data
  - Useful data for determining effectiveness of the programs and BMP technologies



# Congratulations, you've reached the end of Module 4

Questions?

